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P. DeLoach
06/17/04

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

BROWN ET AL.

Serial No: 09/429,406

Filed: October 26, 1999

)
For: METHOD AND APPARATUS FOR
EFFICIENT DATA TRANSMISSION
CONTROL IN A WIRELESS VOICE-
OVER-DATA COMMUNICATION
SYSTEM
)
Group Art Unit: 2661

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APPELLANT'S BRIEF (37 CFR 1.192)

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ATTENTION: Board of Patent Appeals and Interferences

This following appeal brief is hereby submitted following Appellant's Notice of Appeal, filed on February 5, 2004. This brief is transmitted in triplicate. (37 CFR 1.192(a))

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231, on:

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REAL PARTY IN INTEREST

The real party in interest is Qualcomm Incorporated, located at 5775 Morehouse Drive, San Diego, California 92121.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

STATUS OF THE CLAIMS

1. The total number of claims pending in the application is 5.
2. Claims 1-3 stand rejected.
3. Claims 4 and 5 have been allowed.
4. Claims 1-3 are on appeal.

STATUS OF AMENDMENT

There has no amendments filed in the present case after issuance of the Examiner's final action on November 5, 2003.

SUMMARY OF THE INVENTION

In one embodiment, a method for transmitting time-sensitive information, such as audio information, over a wireless voice-over-data communication channel, is claimed. The method generally comprises generating data "segments" from time-sensitive information that has been converted into one or more predefined data protocols (such as TCP/IP). The method comprises the steps of defining a minimum segment size and a maximum segment size, and generating a first data segment from the time-sensitive information if a sufficient quantity of time-sensitive information is available for transmission. The first segment comprises a segment size between the minimum segment size and the maximum segment size. The method additionally comprises generating a second segment having a segment size less than or equal to the maximum segment

size upon the occurrence of a predefined event, such as the receipt of an acknowledgement message.

The method described above minimizes latency problems associated with discontinuous data. The smaller segment size allows data segments to be generated and transmitted more frequently than they would otherwise be transmitted. This is especially helpful when a small amount of information is to be transmitted, or when the information to be transmitted is bursty. When a large amount of information is available for transmission, a data segment equal in size to the maximum segment size is created, thus allowing more efficient processing of data while reducing the overhead associated with the transmission of many data segments (page 9, lines 13-28).

ISSUE

1. Whether claims 1-3 are anticipated by DeClerck (US 5,515,375) under 35 U.S.C. 102(a).

GROUPING OF CLAIMS

Appellants believe that the rejected claims stand or fall together.

ARGUMENTS

Rejections under 35 U.S.C. 102(a)

Claims 1-3 were rejected under 35 U.S.C. §102(a) as being anticipated by DeClerck (US 5,515,375). It was alleged that DeClerck teaches all the limitations of Appellants' claims. Appellants believe that DeClerck does not teach such limitations. Specifically, Appellants believe that DeClerck fails to teach defining a minimum and maximum segment size.

DeClerck teaches a method and apparatus for sending control information along with voice information in a wireless communication system. The control information is inserted within vocoder frames having a vocoding rate less than full rate. If all of the

necessary control information has not been sent near the expiration time for sending the control information, the vocoder is forced to generate frames at less than full rate, so that the remaining control information may be inserted before expiration of the time for response (see DeClerck, col. 3, lines 23-36).

It was alleged that the limitations "defining a minimum segment size for information to be transmitted" and "defining a maximum segment size for information to be transmitted" found in Appellants' claim 1 are taught by DeClerck by the generation of a 1/8 rate vocoder frame and a full rate vocoder frame, respectively. Appellants do not agree.

Defining a minimum segment size is not synonymous with defining a minimum encoding rate for use with a vocoder. "Segment size" implies the time duration of a data segment. For example, a "minimum segment size" might be defined as being 50 milliseconds in duration, while a "maximum segment size" might be defined as being 200 milliseconds in duration. The time duration of each vocoder frame generated by the variable-rate vocoder described in DeClerck, on the other hand, remains constant. In other words, each vocoder frame is equal in size.

It was further alleged that DeClerck teaches the limitation of "generating a first segment from said time-sensitive information *if a sufficient quantity of said time-sensitive information is available for transmission*, said first segment having a size between said minimum segment size and said maximum segment size". DeClerck does not teach such a feature. DeClerck describes a variable-rate vocoder which produces vocoder frames every 20 milliseconds, *whether data is available for transmission or not*.

For the reasons above, Appellants respectfully request the rejections relating to claim 1 under 35 U.S.C. 102(a) be withdrawn. Furthermore, Appellant requests that the remaining rejected claims be allowed as being dependent on an allowable claim.

SUMMARY

DeClerck does not teach the feature of defining a minimum segment size or a maximum segment size. Furthermore, DeClerck does not teach generating a data "segment" from time-sensitive information if a sufficient quantity of time-sensitive information is available for transmission, the first segment having a size between the minimum and maximum segment size.

CONCLUSION

For the foregoing reasons, Appellants respectfully request that all presently outstanding rejections be reversed, and that all claims under appeal be allowed.

Respectfully submitted,

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APPENDIX OF CLAIMS

1. A method for transmitting time-sensitive information over a wireless voice-over-data communication system, used in conjunction with a predefined data protocol, comprising the steps of:

defining a minimum segment size for information to be transmitted;

defining a maximum segment size for information to be transmitted, said maximum segment size greater than said minimum segment size;

generating a first segment from said time-sensitive information if a sufficient quantity of said time-sensitive information is available for transmission, said first segment having a segment size between said minimum segment size and said maximum segment size; and

generating a second segment having a segment size less than or equal to said maximum segment size upon the occurrence of a predefined event.

2. The method of claim 1 wherein said predefined event comprises the receipt of an acknowledgment message.

3. The method of claim 1 wherein said maximum segment size is negotiated between a transmitter and a receiver.

4. An apparatus for transmitting time-sensitive information over a wireless voice-over-data communication system, used in conjunction with a predefined data protocol, comprising:

means for negotiating a maximum segment size with a receiver;

a memory for storing a minimum segment size;

a queue for storing data frames, said data frames representing time-sensitive information; and

a first processor for generating at least one segment from said data frames stored within said queue when a segment size greater than or equal to said minimum segment size can be generated from said data frames.

5. The apparatus of claim 4, further comprising a vocoder for generating data frames from said time-sensitive information.